

MAY 10 2006

## AMENDMENT

Please amend the above-identified application as follows:

**IN THE SPECIFICATION:**

Please amend the paragraphs numbered as [0001], [0038], [0040] and [0045] as follows:

[0001] This invention was made with government support under Contract No. DE-FC26-  
01NT41229 ~~7FT343656~~ awarded by the U.S. Department of Energy. The government has certain  
rights in the invention.

[0038] Pressurized drilling fluid is circulated through the drill bit 12e to provide a flushing action  
to carry the drilled earth cuttings to the surface. Rotation of the drill bit may alternately be  
provided by other downhole tools such as drill motors, or drill turbines (not shown) located  
adjacent to the drill bit 12e. Other downhole tools include drill pipe 12a and downhole  
instrumentation such as logging while drilling tools 12c, and sensor packages (not shown). Other  
useful downhole tools include stabilizers 12d, and tools such as hole openers, drill collars,  
heavyweight drill pipe, sub-assemblies, under-reamers, rotary steerable systems, drilling jars, and  
drilling shock absorbers as indicated by numeral 12b, which are all well known in the drilling  
industry.

[0040] The ~~wall~~ thickness of the wall 36 surrounding the central bore 28 is typically designed in  
accordance with weight, strength, and other constraints, needed to withstand substantial torque  
placed on the tool 12, pressure within the central bore 28, flex in the tool 12, and the like.  
Because of the immense forces placed on the tool 12, milling or forming a channel in the wall 36  
of the downhole tool 12 to accommodate a transmission line 30 may excessively weaken the  
wall. Thus, in most cases, the only practical route for a transmission line 30 is through the  
central bore 28 of the downhole tool 12.

[0045] Referring to Figure 3, to keep the transmission line 30 attached to the inside of the wall 36 of the central bore 28, a pre-formed interface 40 may be attached to both the transmission line 30 and the central bore 28. The transmission line 30 may be a combination of some transmission medium, such as coaxial cable, copper wire, optical fiber, waveguides, or the like, and a protective covering such as sheathing or conduit. In selected embodiments, the conduit may be constructed of a metal such as stainless steel. By "pre-formed," it is meant that the interface 40 is formed previous to being inserted into the central bore 28, as opposed to being formed within the central bore 28 as an epoxy or other like material might be. Nevertheless, an alternative embodiment, where the interface 40 is actually formed in the central bore 28 with a material such as an epoxy, is described with respect to Figures 11 through 13.